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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,427	08/05/2003	Arun P. Aneja	DP7010 USNA	8309

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E I DU PONT DE NEMOURS AND COMPANY  
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BARLEY MILL PLAZA 25/1128  
4417 LANCASTER PIKE  
WILMINGTON, DE 19805

EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/634,427

Applicant(s)

ANEJA ET AL.

Examiner

Terressa M. Boykin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**Claim Rejections - 35 USC 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

**Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by US 20040242105 page 1 paragraph 2 through page 3 paragraph 0042, Table 1, Table 3, Table 5, Table 8, example 1, claims 8, 13, 14-20.**

Applicants' claims 1 and 2 which are directed to fibers comprising a copolymer of poly(ethylene terephthalate and poly(ethylene naphthalate), (PETN) and the method for making such, note that the reference **US 20040242105** discloses a process for making a light-weight, high loft nonwoven fabric. The process adds a drafter to a conventional nonwoven process in order to increase the production rate. Additionally, the invented process improves the quality of the manufactured fabric by increasing the tensile strength in the machine direction, providing balanced strength in the machine

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and cross directions, and enhancing resiliency. The process blends polyester fiber with a low melt fiber or low melt bicomponent fiber to form a web. The web is optionally carded and cross lapped before being drafted. Thereafter, the web is heated in an oven having sufficient heat to melt the low melt fiber then cooled to set the properties.

The synthetic fiber can be polyester such as polyethylene terephthalate, polybutylene terephthalate, polyethylene naphthalate, or polypropylene terephthalate, or a mixture of these; polyamide such as nylon 6 or nylon 6,6, or a mixture of these; polyolefin such as polyethylene or polypropylene, or a mixture of these; polyacrylic such as polyacrylonitrile, cellulose acetate, melamine, and rayon, or a mixture of these, or copolymers based on any of these. The reference discloses a conventional process for making high loft nonwoven fabric, wherein low melt fibers are used as the binder, polyester fibers and low melt fibers are blended together in a hopper, for example, and deposited onto a moving conveyor belt forming a batt. The speed of the conveyor belt determines the thickness of the batt.

With regard to applicants' claim 3 which is directed to a poly(ethylene naphthalate) fiber wherein the fiber has a denier per filament in the range of 1 to 30, note that the reference disclose in Example 1 and table 1 a denier per filament which overlaps that of the claimed invention.

With regard to applicants' claims 4 and 5 which is directed to a poly(ethylene naphthalate) fiber wherein the fiber has a round scalloped oval, hollow, trilobal hollow or four-hole cross section and comprising clusters thereof, note that the reference

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discloses throughout the fibers used there in as well as the uniformity of the fibers produced.

With regard to applicants' claim 6 which is directed to clusters comprising a blend of dry poly(ethylene naphthalate) fibers and slickened poly(ethylene naphthalate) fibers, note that the reference discloses High loft, nonwoven fabrics are principally formed of a polyester blend having a low melt binder. The low melt binder is either a bicomponent fiber, or a low melting fiber having a lower melting temperature than the polyester fiber, or a latex resin applied to the fibers, either as a spray or a powder.

With regard to applicants' claim 7 which is directed batt comprising poly(ethylene naphthalate) fiber having either a cross-lapped or vertical folded configuration, note Table 8, claims 8, 13, 14-20 of the reference.

With regard to applicants' claims 8 and 9 are directed to a batt having an initial bulk in the range of 4.2 to 5.1 or a residual bulk in the range of .47 to .50, note Tables 3 and 5.

**Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by US 6300462 see abstract, cols. 1-4 and examples, and claims 4, 5, 10, 11, 12 and 17.**

**US 6300462** relates to the production of poly(ethylene-2,6 -naphthalene dicarboxylate) (PEN) or copolymers thereof, via the ester exchange of a component comprising at least 80 to 100 mole percent naphthalene-2,6-dicarboxylate ester, the remainder comprising naphthalene-2,6-dicarboxylic acid, terephthalic acid, isophthalic acid, dimethyl terephthalate, dimethyl isophthalate, or combinations thereof, with an aliphatic or cycloaliphatic diol component, and mixtures thereof, subsequent polymerization of the ester exchange product to precursor molecular weight polymer,

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and optionally, solid state polymerization to high molecular weight polymer. More specifically, this invention relates to a process whereby high molecular weight PEN or copolymers thereof is produced with the resulting polymer possessing low methyl end-group content, low diethylene glycol content, and low carboxyl end-group content, although in the presence of water. Such polyesters are suitable for certain fiber applications.

PEN polymer in the reference is made from DMN and EG. Co-polymers of PEN, as defined by this invention, are made from a component comprising at least 80 mole percent of the component as DMN, the remainder comprising naphthalene-2,6-dicarboxylic acid, terephthalic acid, isophthalic acid, dimethyl terephthalate, dimethyl isophthalate, or combinations thereof, and a diol component comprising an aliphatic or cycloaliphatic diol and combinations thereof. Aliphatic diols preferably have 2 to 20 carbon atoms, and cycloaliphatic diols preferably have 6 to 20 carbon atoms. Also, included in the definition of aliphatic diols are diols having ether linkages such as polydiols having 4 to 800 carbon atoms. Suitable diols include ethylene glycol, diethylene glycol, combinations of ethylene glycol with diethylene glycol, combinations of diethylene glycol with 1,4-cyclohexanedimethanol, combinations of ethylene glycol with 1,4-cyclohexanedimethanol, and combinations of ethylene glycol with a variety of suitable co-diols. See also claims 4, 5, 10, 11, 12 and 17.

In view of the above, there appears to be no significant difference between the references and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be

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deemed as novel and accordingly is unpatentable.

**Correspondence**

**Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is ( 571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

  
Examiner Terressa Boykin  
Primary Examiner